

TRIP REPORT

AERIAL SURVEY OF LOWER COOK INLET
TO LOCATE MOLTING FLOCKS OF STELLER'S EIDERS AND MERGANSERS
14 September 2005

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INTRODUCTION

This survey was conducted to satisfy three objectives:

1. Confirm the persistence of molting flocks of Steller's eiders located by Dan Rosenberg of the Alaska Department of Fish and Game in August, 2005 near the delta of the Douglas River, for the purpose of attaching leg bands and several satellite transmitters. This project is pursuant to determining the relationships of this molting population to other molting, breeding and wintering populations of Pacific Steller's eiders.
2. Search known wintering areas for additional molting concentrations of Steller's eiders in Cook Inlet.
3. Describe the September distribution of Steller's eiders in Cook Inlet in support of a study funded by The USDI Minerals Management Service to determine the possible effects of proposed offshore Oil and Gas leasing in Cook Inlet on the Alaska breeding population of Steller's eiders, which is listed as "threatened" under the Endangered Species Act.
4. Describe the distribution of molting flocks of red-breasted and/or common mergansers in Cook Inlet, in support of a genetics study being conducted by the U S Geological Survey, Alaska Science Center.

The study was funded jointly by the U S Fish and Wildlife Service and the Alaska Department of Fish and Game.

METHODS

The survey was flown on 14 September, 2005, in a Cessna 206 amphibian. The plane was flown at 200-300 feet (61-91 m) altitude and 100 knots (185 km/hr.). Coverage included a track parallel to the shoreline approximately 400 m offshore, essentially complete coverage of embayments along this path, and offshore reefs and shoals known from previous surveys to contain seaducks (Fig. 1). The pilot, who was the sole occupant of the aircraft, estimated and recorded all sea ducks seen from the aircraft. I estimated that flocks of seaducks were visible at a range of approximately one kilometer from the plane. The flight path and waterfowl observations were recorded using a laptop computer, GPS receiver, and the GPSVOX program developed by John Hodges (U S Fish and Wildlife Service, Juneau, AK).

RESULTS

Survey conditions were favorable, with scattered clouds, light northeast winds of 5 knots gradually increasing to about 10 knots as we moved south to Kamishak Bay. Air temperature was 11 Celsius. Surface conditions were mostly Beaufort 1, with Beaufort

2-3 in the more exposed portions of Kamishak Bay and the area near Anchor Point and Ninilchik.

A total of seven flocks of Steller's eiders were recorded, all in the vicinity of the Douglas River Delta and adjacent reefs, shoals and islands (Fig. 2). The largest flock was estimated at 1,800 birds, and the total of all flocks was 2,190. At this time there were two female Steller's eider females present in this area that were implanted with satellite transmitters in Kodiak in March 2005. After leaving Kodiak they had moved to Siberia between the Yana and Indigirka Rivers, then returned to the Douglas River area to molt (Rosenberg Pers. comm.). Satellite telemetry data from a previous year had already established a connection between the eiders in Kodiak and the Douglas River shoals.

Only a single congregation of molting mergansers was detected, estimated at 500 birds, also in the Douglas River area. No Steller's eiders or mergansers were recorded along the eastern shoreline of Cook Inlet.

These observations were similar to observations made 29 August by Dan Rosenberg (ADF&G), though at that time the molting merganser flocks contained approximately 1,000 birds (Rosenberg pers. comm.). The latter survey was limited to the Douglas River shoals area. Presumably many of the mergansers had already departed the area after completing the primary molt.

By far the most numerous of other seaducks were surf and white-winged scoters (Table 1). These species were found primarily in bays and along the shoreline from Chinitna Bay to Ursus Cove, with a few also further south near Douglas River (Figs. 3 and 4). Smaller numbers of other seaducks were scattered throughout the area (Table 1, Fig. 5).

Table 1. Total numbers of seaducks estimated during an aerial survey of lower Cook Inlet, Alaska, 14 September 2005.

Species	Estimate
Black scoter	420
Surf scoter	3,734
White-winged scoter	2,876
Harlequin duck	50
Greater scaup	455
Red-breasted merganser	538
Steller's eider	2,190
Common eider	121

CONCLUSIONS

Added to previous survey and satellite telemetry data (Rosenberg pers. comm.), results of this survey strongly suggest that the shoals and reefs near the Douglas River in Kamishak Bay are an important molting habitat for Steller's eiders, and likely the only

important such habitat in Cook Inlet. We also confirmed the Douglas River Shoals as the only likely habitat in the surveyed portion of Lower Cook Inlet supporting a large molting population of mergansers. At the time of this survey the Eastern shore of Cook Inlet from Anchor Point to Clam Gulch (an area with persistent wintering populations of Steller's eiders) does not appear to host molting concentrations of seaducks.

This survey, delayed by persistent inclement weather and conflicting survey priorities, was timed two weeks or more too late to provide an accurate estimate of peak numbers of molting seaducks. In light of the increasing interest in mineral extraction, transportation and other commercial activities in lower Cook Inlet I recommend a more intensive periodic assessment of the location, timing and duration of seaduck molting events in Cook Inlet, as this is the stage in the annual cycle where adult birds are most vulnerable to contaminant spills, and acute or chronic disturbance.



Fig. 1. Flight path flown during an aerial survey of Lower Cook Inlet, Alaska, 14 September 2005.

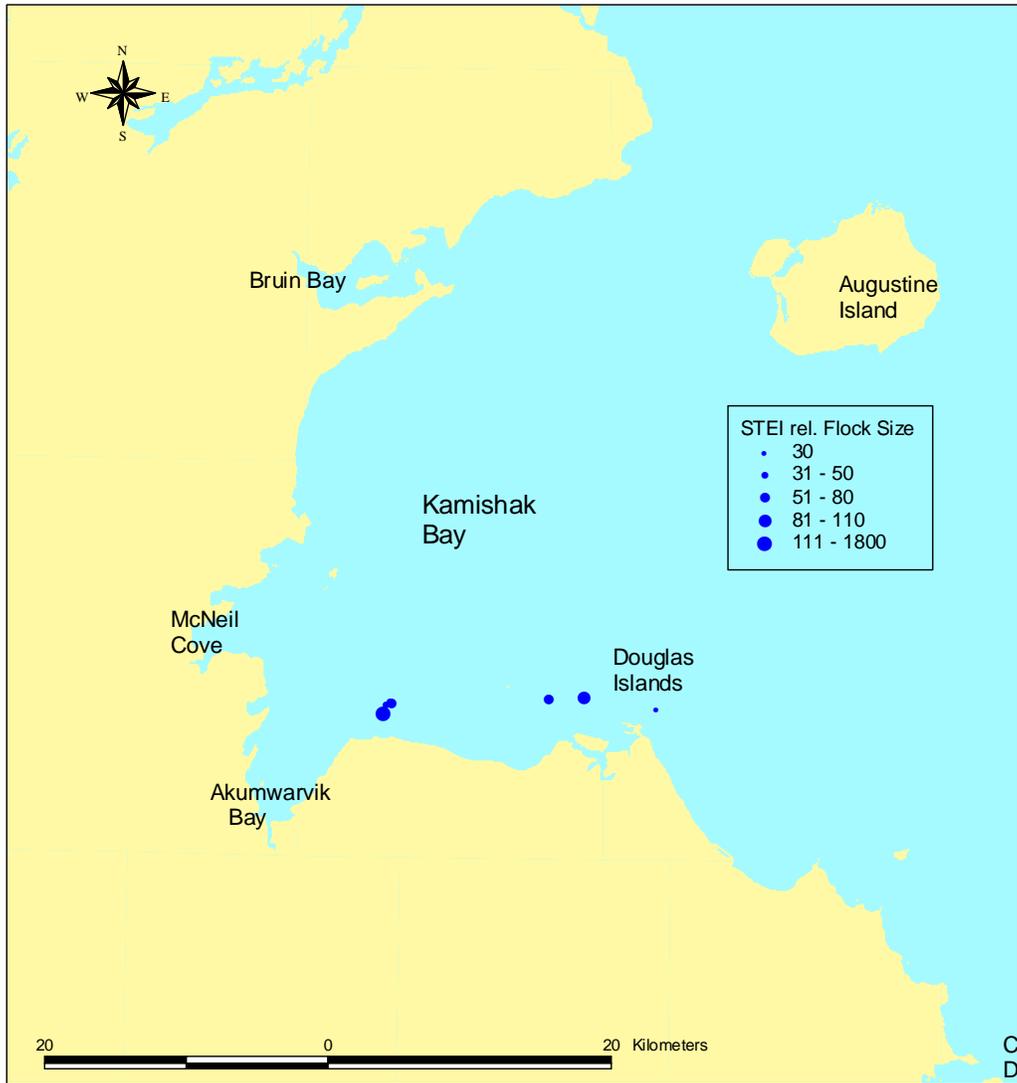


Fig. 2. Locations and flock sizes of Steller's eiders recorded during an aerial survey of Cook Inlet, Alaska, 14 September 2005.

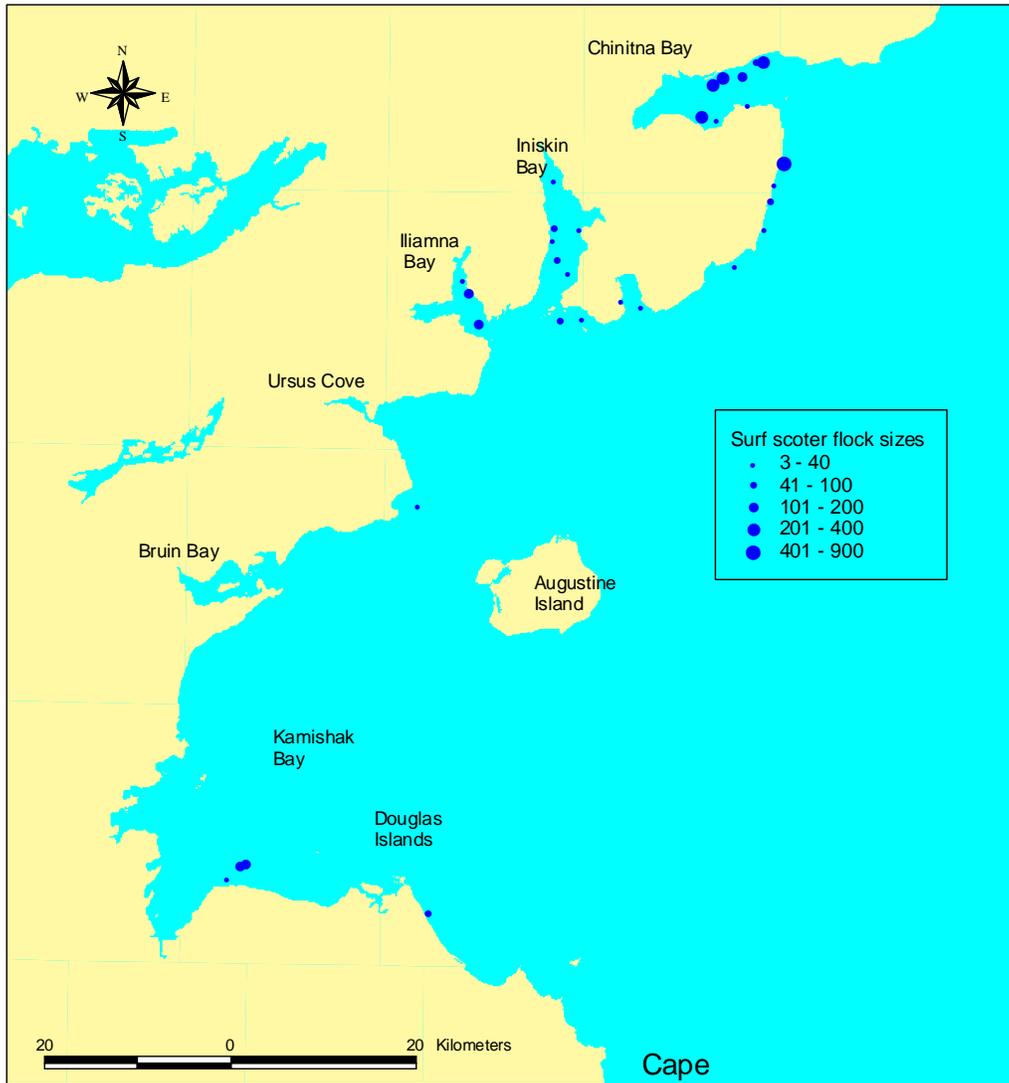


Fig. 3. Locations of surf scoter flocks recorded during an aerial survey of Cook Inlet, Alaska, 14 September 2005.

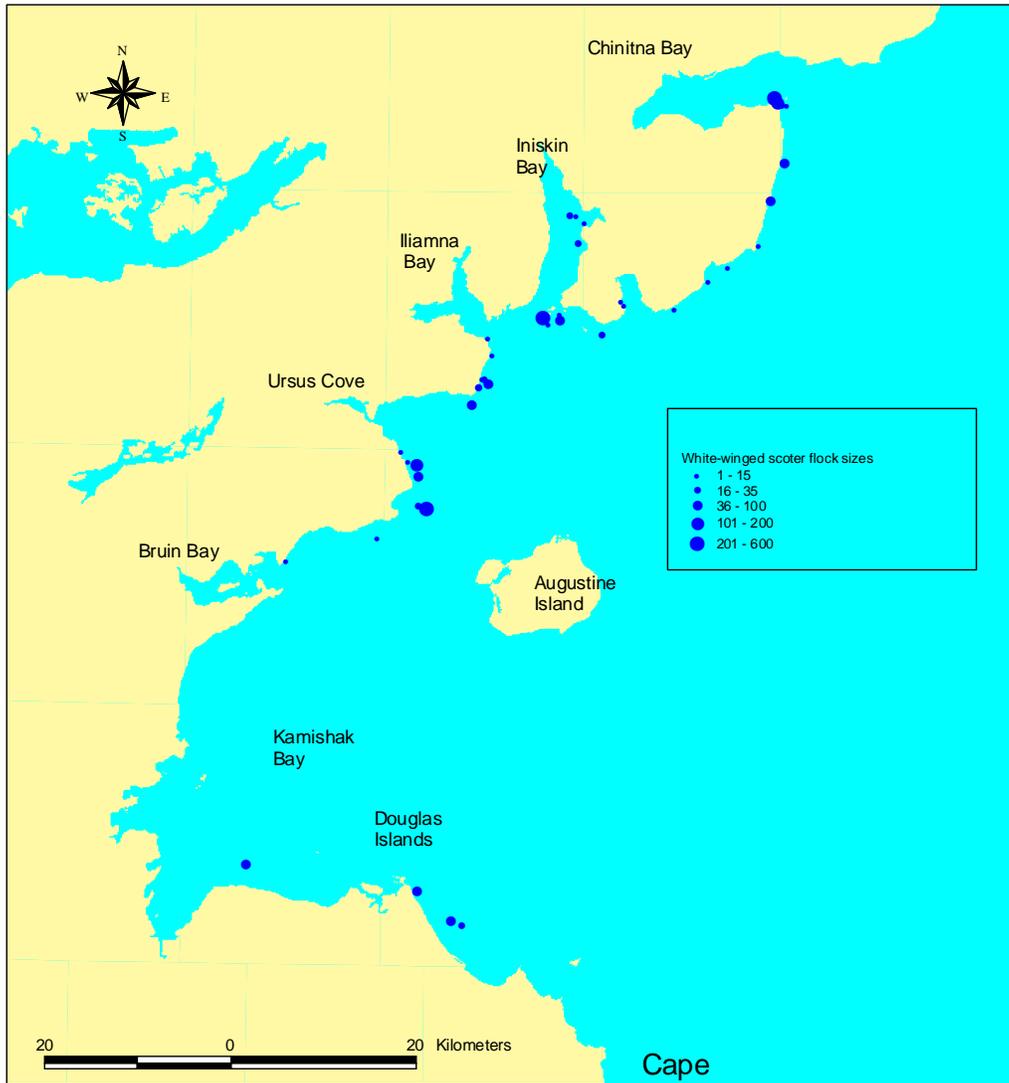


Fig. 4. Locations of white-winged scoter flocks recorded during an aerial survey of Cook Inlet, Alaska, 14 September 2005.

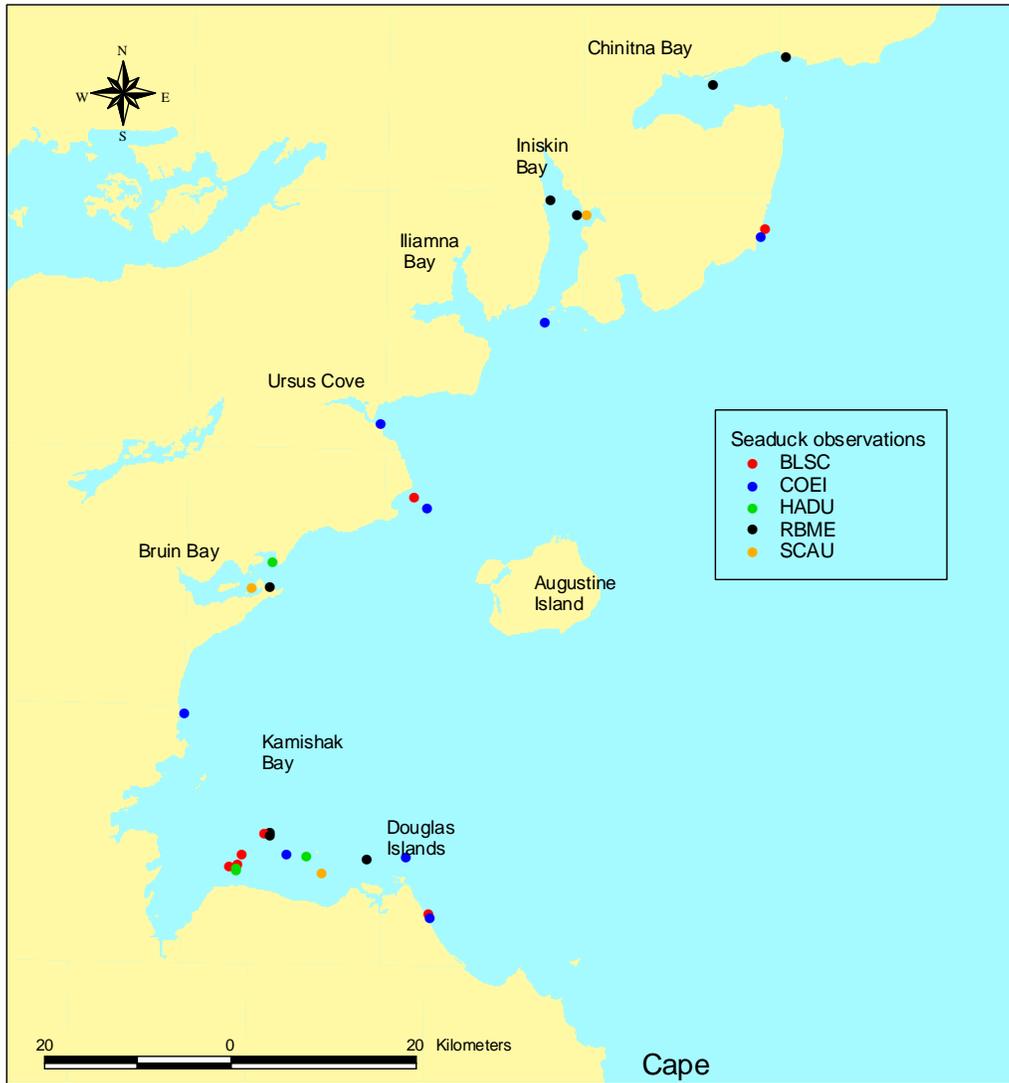


Fig. 5. Locations of selected seaducks recorded during an aerial survey of Cook Inlet, Alaska, 14 September 2005.